

F. B. CHARROIN.
 FLUSH VALVE.
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1,014,637.

Patented Jan. 16, 1912.

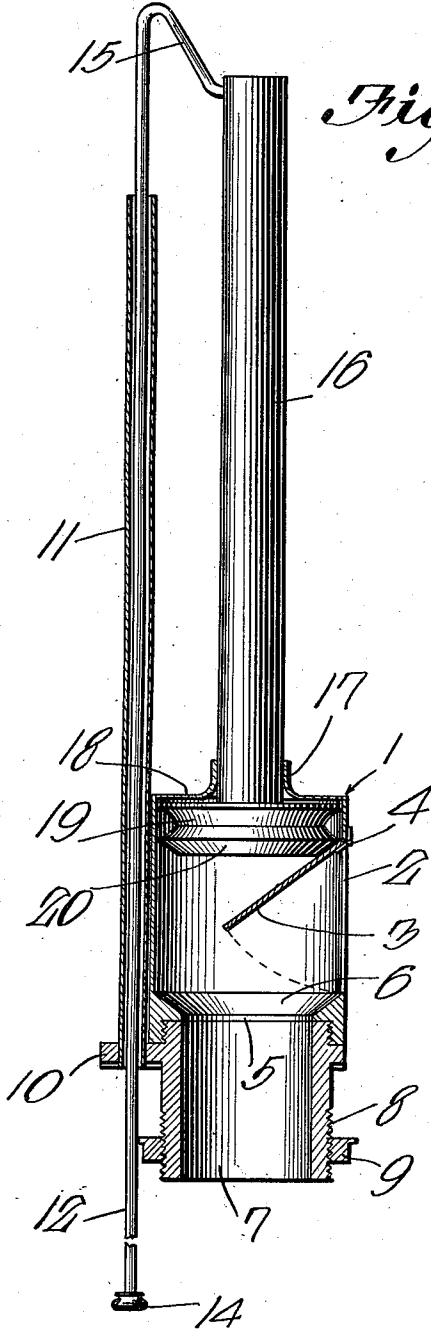


Fig. 1.

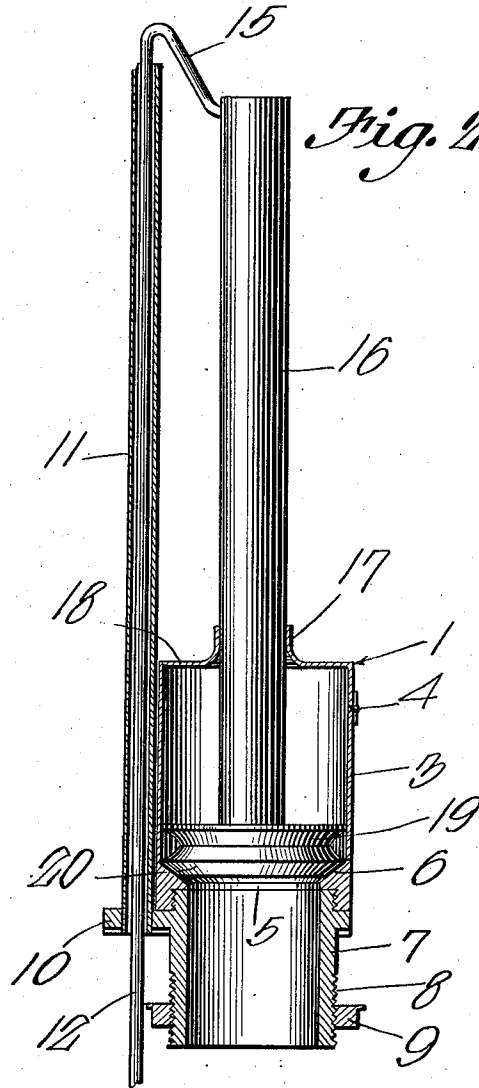


Fig. 2.

Witnesses
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UNITED STATES PATENT OFFICE.

FRANK B. CHARROIN, OF SOUTH BELLINGHAM, WASHINGTON, ASSIGNOR TO BELLINGHAM BRASS MFG. CO., OF BELLINGHAM, WASHINGTON, A CORPORATION OF WASHINGTON.

FLUSH-VALVE.

1,014,637.

Specification of Letters Patent.

Patented Jan. 16, 1912.

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To all whom it may concern:

Be it known that I, FRANK B. CHARROIN, a citizen of the United States, residing at South Bellingham, in the county of Whatcom and State of Washington, have invented a new and useful Flush-Valve, of which the following is a specification.

One of the objects of the present invention is to provide a flush valve that is positive in seating, and to provide a novel means for holding the valve in open position to permit the water to pass through the valve casing.

A further object of the invention is to provide a flush tank valve which may be operated without a float.

A further object of the invention is to provide a flush valve which will be efficient in operation, the valve containing a minimum number of simple parts, and being readily operable.

With the foregoing and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the accompanying drawings,—Figure 1 shows the invention in vertical longitudinal section, parts appearing in elevation, the valve being in open position; and Fig. 2 is a similar view, the valve being in closed position.

In carrying out the invention there is provided as a primary element, a casing, denoted generally by the numeral 1. The casing 1 is provided at one side with an inlet 2, through which the water passes from the tank, the water passing through the casing 1 to effect a flushing of the closet. A closure 3 for the opening 2 is provided, the closure 3 being hingedly connected with the casing 1, as shown at 4.

The outlet of the casing 1 is shown at 5 and the outlet 5 is surrounded by a conical valve seat 6. Threaded into the valve seat 6 is a coupling member 7 of tubular form, threaded as shown at 8, to receive a nut 9 whereby the coupling 7 may be connected with the bottom of the flush tank. The coupling 7 is equipped with an outstanding

flange 10, into which is inserted a pipe 11. The pipe 11 serves as a slidable mounting for the valve structure hereinafter described.

The valve structure comprises a rod 12, slidably mounted in the pipe 11, and equipped at its lower end with a button 14. The upper end of the rod 12 is laterally extended, as shown at 15, and is connected with the valve stem 16, the latter being slidable in a neck 17 formed in the top 18 of the casing 1. The lower end of the valve stem 16 carries, within the casing 1, a head 19, the lower face of which is frusto-conical, as shown at 20, to cooperate with the conical valve seat 6 which is located about the outlet 5.

In practical operation, the head 19 of the valve rests in the valve seat 6, thus closing the outlet opening 5. When the valve head 19 is thus positioned, the valve head, at its periphery will engage the closure 3, and hold the same in the inlet opening 2, as clearly shown in Fig. 2. When, however, the rod 12 is slid upwardly, raising the valve stem 16, the valve head 19 will be raised off the seat 6. The closure 3 will thus be relieved from the pressure exerted thereagainst by the valve head 19, whereupon the water which surrounds the valve casing 1, will swing the closure 3 inwardly, into the position shown in Fig. 1. The closure 3 will engage against the frusto-conical surface 20 of the valve head 19 and maintain the valve head 19 elevated, until the tank is drained, whereupon, when the hydrostatic pressure against the closure 3 is relieved, the weight of the valve structure, including the parts 12, 16 and 19, will operate upon the closure 3, to swing the same into the opening 2, as depicted in Fig. 2.

Having thus described the invention what is claimed is:—

1. A device of the class described comprising a casing having an inlet and an outlet; a valve slidable in the casing and adapted to close the outlet; a closure for the inlet, hinged to the casing and movable under the impulse of the liquid entering the inlet, to engage the valve, and to hold the valve free from the outlet.

2. A device of the class described comprising a casing having an inlet and an outlet; a valve slidable in the casing and adapted to close the outlet; and a closure for the inlet, hinged to the casing, the valve, 110

when in position to close the outlet, engaging the closure, to effect a closing of the inlet, the closure being adapted to swing beneath the valve to maintain the valve
5 spaced from the outlet.

3. A device of the class described comprising a casing having an inlet and an outlet; a valve slidable in the casing and adapted to close the outlet; and a hinged
10 closure for the inlet the valve being slidably engaged with the closure, whereby, when the closure and the valve are in open

positions, the closure will hold the valve against movement, and whereby, when the valve is in closed position, the valve will
15 maintain the closure in closed position.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

FRANK B. CHARROIN.

Witnesses:

J. B. SCOTT,

J. FINNEGAN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."